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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
FOREST SERVICE, U. S. DEPARTMENT OF AGRICULTURE
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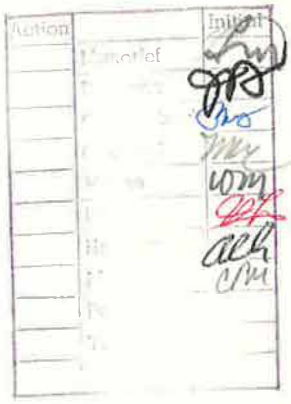

Payette National Forest
Annual Aerial Survey
August - September 1958

By

W. E. Cole - W. E. Mineau
Entomologists

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Prepared by

Division of Forest Insect Research
Boise Research Center
Boise, Idaho

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INTRODUCTION

The annual aerial survey of the Payette National Forest was conducted in the same manner as in previous years, i. e., flights were made to cover all forested areas by drainages. The purpose of the examination was to detect the evidence of unusual forest insect activity.

Where aerial observations indicated abnormal conditions further checks were made on the ground whenever possible. When formal ground appraisal surveys were required such was done and reported separately.

Three degrees of intensity of damage, light, medium, and heavy, were used on the aerial work with defoliators that destroy the current year's needles. However, with defoliators such as pine butterfly, old growth needles are destroyed, detection is based on observing the adults in flight. Thus, a ground appraisal survey is required.

In the case of most bark beetles, the aerial detection reveals only the damage of the previous year's attacks and not the new infestations. In some cases, there may be fading of foliage during the season of attacks. Generally, ground work is required to determine the current status of bark beetle infestations.

FOREST RESUME'

The 1958 aerial survey, coupled with ground detection reports, revealed some interesting infestations that warrant concern.

Of primary concern is the Engelmann spruce beetle infestation within Fisher Creek. Potentially this beetle could destroy the entire spruce belt on the Payette Forest and remedial measures are in order.

1/ Forest aid-research

Secondly, an infestation of mealy bug (approximately 6,000 acres) was reported and confirmed around Hazard Lake. In this case the mealy bug is found primarily on true firs and white pine. No control measures are known at this time, but a close watch will be kept on the developments.

The loss due to the Douglas-fir beetle appears to have decreased in some areas but has substantially increased in others, particularly Lick Creek on D-3.

An increase of western pine beetle activity in ponderosa pine was noted in Pony Creek (D-7).

For the first time since 1950 the Payette Forest is relatively free of budworm infestations. Only two areas of concern were noted: around Bear Creek Point and Pilot Peak. Combined, these infestations cover only 11,100 acres. The two new infestations of budworm total only 3,700 acres of light defoliation. The Big Creek area, sprayed in 1957, shows no reinfestation. However, the spider mite on Douglas-fir appears to be present, though sporadic, throughout most of this area.

RESULTS BY DISTRICTS

A description of each area of infestation follows and is keyed by ranger district:

Council District (D-1). This area is relatively free of insect damage except for the Douglas-fir beetle. Only two areas of concern were noted; one in the East Fork Weiser River containing some 50 - 100 trees, and one in Cottonwood Basin of about the same proportion. Douglas-fir beetle activity within Anderson Creek appears to have subsided somewhat.

Weiser District (D-2). Only one area of insect damage of consequence was noted on the Weiser District. This was an area within the East Fork Pine Creek containing some 100 dead trees attacked by the Douglas-fir beetle.

Hornet District (D-3). Probably the greatest amount of current loss due to the Douglas-fir beetle on the forest was located on this district. Over 500 Douglas-fir, attacked in 1957, were noted in Lick Creek. The evident large "grouping" of trees warrants a closer investigation.

New Meadows District (D-4). The New Meadows District is relatively free of loss due to bark beetles. However, an area of some 6,000 acres containing mealy bugs in true firs and white pines was previously reported by the ranger and subsequently examined on the ground. A separate report on this mealy bug infestation has been prepared and circulated.

McCall District (D-5). This district contains only one area of insect damage of consequence. Earlier in the season an Engelmann spruce beetle outbreak was reported in Fisher Creek. A ground reconnaissance revealed approximately 1,000 infested spruce trees. This situation definitely needs correcting as revealed in the report on the infestation.

There is in addition an area containing some 20 alpine fir trees attacked by fir engravers within Twenty Mile Creek.

Krassel District (D-6). D-6 contains some budworm defoliation which is reported under D-7. However, there was noted some loss due to the Douglas-fir beetle within Phoebe, Nasty, Four Mile and Buckhorn Creeks. Four Mile Creek contained the largest loss, approximately 50 - 100 trees; in the other drainages the loss was scattered and no grouping in particular was observed.

Warren District (D-7). The Warren District contains the bulk of the budworm infestation. The total area showing defoliation approximated only 15,000 acres and comprising several isolated areas ranging from 1,250 - 8,000 acres. The Bear Creek Point (8,000 acres) and Pilot Peak (3,100 acres) areas were recorded as medium to heavy degree of defoliation, the other areas of light degree.

The Pony Creek drainage contains an increase in both western pine and Douglas-fir beetle activity. Approximately 50 ponderosa pine and 50 Douglas-fir trees were recorded as loss due to these bark beetles. Some 50 Douglas-fir trees attacked by the Douglas-fir beetle were noted in the West and South Forks of Elk Creek.

Big Creek District (D-8). In the past Big Creek contained some 500,000 acres of heavy budworm defoliation. In 1957 this infestation was sprayed. The 1958 aerial surveys revealed only two areas of remaining budworm infestations; Upper Cabin Creek (200 acres) and east of Lookout Mountain (40 acres).

However, there appears to be spider mite infestations on Douglas-fir scattered throughout the Big Creek area that was sprayed in 1957. This definitely requires close scrutiny in the future.

The only bark beetle loss noted was one small patch of fir engravers in true fir east of Rock Rabbit Peak.

Boulder District (D-9). Only two areas of insect loss were observed on the Boulder district. Both areas contain Douglas-fir beetle activity and are located within the Lost Creek Drainage. The area south and along Lost Creek Reservoir has contained Douglas-fir beetle loss for many years and 1958 is no exception. The other Douglas-fir loss was noted between the forks and near the head of Lost Creek. Neither group is large, but represents a continuing infestation.

SUMMARY OF INSECT DAMAGE

District	Insect	Approximate damage	
		Trees killed	Acres defoliated
Council (D-1)	Douglas-fir beetle	100-200	---
Weiser (D-2)	Douglas-fir beetle	100	---
Hornet (D-3)	Douglas-fir beetle	500	---
New Meadows (D-4)	Mealy bug	---	6,000
McCall (D-5)	Engelmann spruce beetle	1000	---
	Fir engraver	20	---
Krassel (D-6)	Douglas-fir beetle	100	---
Warren (D-7)	Douglas-fir beetle	100	---
	Western pine beetle	50	---
	Budworm	---	15,000
Big Creek (D-8)	Fir engravers	Endemic	---
	Budworm	---	240
	Spider mite	---	5,750
Boulder (D-9)	Douglas-fir beetle	50	---
Forest Total	Douglas-fir beetle	950-1050	---
	Western pine beetle	50	---
	Engelmann spruce beetle	1000	---
	Fir engravers	Endemic	---
	Mealy bug	---	6,000
	Budworm	---	15,240
	Spider mite	---	5,750